JS 10/29/21
RJA 2/16/22

Fate Report for Case # P-18-0212

Fate
Summary Statement

Fate Summary Statement:

P-18-0212
FATE:
MW = 4453 with 1.2% < 500 and 6.2% < 1000
Solid
S =
Disp.
VP < 1.0E-6 torr at 25 °C (E)
BP > 400 °C (E)
H <
1.00E-8 (E)
POTW removal (%) = 90 via sorption
Time for complete
ultimate aerobic biodeg > mo
Sorption to soils/sediments =
v.strong
PBT Potential: P3B1
*CEB FATE: Migration to ground water =
negl

PMN Material:
Overall wastewater treatment removal is 90%
via sorption.
Sorption to sludge is strong based on data for large
molecular weight polymers.
Air Stripping (Volatilization to air) is
negligible based on data for large molecular weight polymers.
Removal
by biodegradation in wastewater treatment is negligible based on data for large molecular weight polymers.
The aerobic aquatic biodegradation
half-life is greater than months based on data for large molecular weight polymers.
The anaerobic aquatic biodegradation half-life is greater
than months based on the aerobic biodegradation half-life. The anaerobic biodegradation half-life is projected to be greater than or equal to the aerobic biodegradation half-life.
Sorption to soil and
sediment is very strong based on data for large molecular weight polymers.
Migration to groundwater is negligible based on data for
large molecular weight polymers.

PMN Material:
High Persistence (P3)
is based on the anaerobic biodegradation half-life and the high molecular volume.
Low Bioaccumulation potential (B1) is based on data for large molecular weight polymers in addition to low water solubility, which inhibits bioavailability and
biodegradation.
Bioconcentration/Bioaccumulation factor to be put into
E-Fast: N/A.

CBI: [redacted]
Fate Assessor: Lee, WenHsiung
SMILES: [redacted]

Physical Properties

Property	Measured/Calculated Value	EPI
Molecular Form:	[redacted]	
Molecular Wt.:	4453.0	
% < 500:	1.2	
% < 1000:	6.2	

Property	Measured Value	Method	Estimated Value	Method	EPI
Melting Point:					
Boiling Point:					
BP Pressure:					
Vapor Pressure:			<0.000001		
Water Solubility:			Dispersible		
Log P:					
Log Kow:					

Property	Measured Value	Method	Estimated Value	Method	EPI
Log Koc:					
Log BCF:					
Henry's Law:					

pH:	
pH Comment:	

Fate Analysis

Hydrolysis (t1/2, da):	Volatilization (t1/2) - River (hr):	Volatilization (t1/2) - Lake (da):
Atm Ox Potential (t1/2)OH (hr):	Atm Ox Potential (t1/2)O3 (hr):	Atm Ox Potential (t1/2) Total (hr):
MITI Linear:	MITI NonLinear:	
Biodeg Linear:	Biodeg NonLinear:	
Biodeg Survey ult:	Biodeg Survey Prim:	
STP (% removal) Total:	STP (% removal) Biodeg:	
STP (% removal) Ads:	STP (% removal) Air:	

Rationales

Removal in Wastewater Treatment:	
Atmospheric Oxidation:	
Hydrolysis:	
Photolysis:	
Aerobic Biodegradation:	
Anaerobic Biodegradation:	
Sorption to Soil and Sediment:	

Migration to Groundwater:	
Persistence - Air:	
Persistence - Water:	
Volatilization from Water:	
Soil:	
Sediment:	
Other:	
Standard:	
Bioaccumulation:	

PBT Ratings

Persistence	Bioaccumulation	Toxicity	PBT Comments
3	1		

Exposure-Based Testing

Exposure-Based Testing:	

Fate Ratings

Removal in WWT/POTW (Overall):

Removal in WWT/POTW (Overall):	90

Condition	Rating Values	Rating Description				Comment
		1	2	3	4	
WWT/POTW Sorption:	3	Low	Moderate	Strong	V. Strong	
WWT/POTW Stripping:	4	Extensive	Moderate	Low	Negligible	
Biodegradation Removal:	4	Unknown	High	Moderate	Negligible	
Biodegradation Destruction:		Unknown	Complete	Partial	—	
Aerobic Biodeg Ult:	4	<= Days	Weeks	Months	> Months	

Condition	Rating Values	Rating Description				Comment
		1	2	3	4	
Aerobic Biodeg Prim:		<= Days	Weeks	Months	> Months	
Anaerobic Biodeg Ult:	4	<= Days	Weeks	Months	> Months	
Anaerobic Biodeg Prim:		<= Days	Weeks	Months	> Months	
Hydrolysis (t1/2 at pH 7,25C) A:		<= Minutes	Hours	Days	>= Months	
Hydrolysis (t1/2 at pH 7,25C) B:		<= Minutes	Hours	Days	>= Months	
Sorption to Soils/Sediments:	1	V. Strong	Strong	Moderate	Low	
Migration to Ground Water:	1	Negligible	Slow	Moderate	Rapid	
Photolysis A, Direct:		Negligible	Slow	Moderate	Rapid	
Photolysis B, Indirect:		Negligible	Slow	Moderate	Rapid	
Atmospheric Ox A, OH:		Negligible	Slow	Moderate	Rapid	
Atmospheric Ox B, O3:		Negligible	Slow	Moderate	Rapid	

Bio Comments:

Bio Comments:	

Fate Comments:

Fate Comments:	

Comments/Telephone Log

Artifact	Update/Upload Time